

Remarks**Claim Objection**

Claim 11 is objected to because the limitation "the housing half" does not have sufficient antecedent basis. In response, applicant has amended claim 11, including with a view to reciting correct antecedent basis. It is believed that the objection is now overcome.

Claim Amendments

Applicant has canceled claim 2-9 and claim 13. Claim 1 has amended, including by incorporating the features of original claim 6 thereinto. Claim 10 has amended, including by incorporating the features of original claim 13 and some features of original claim 11 thereinto. In addition, claim 10 now includes part of the subject matter originally recited in claim 11, and claim 11 has been amended correspondingly.

Further, applicant has amended claims 14-16, so that they recite their respective subject matter in a way that is consistent with their parent claim 11 as now amended. **No new matter is introduced.**

Claim Rejections under 35 U.S.C. 102

Claims 1-5, 7, 8, 10 and 11 are rejected under 35 U.S.C. 102(b) as being anticipated by Hayashi et al. (Japan Patent No. JP 61126513A).

Regarding claims 1-5, 7, 8, 10 and 11, Examiner states to the effect that Hayashi et al. discloses a lens holder comprising all of applicant's claimed limitations.

Hayashi et al. discloses a photographic lens including two split lens barrels (10). Lenses (11, 12, 13) are pressed in grooves (22, 23, 24) along

shoulders (16, 17, 18) of a first one of the barrels. Inner collars (19, 20, 21) are deformed elastically when inserting the lenses. Before insertion of the lenses, **an inner radius R1 of the first barrel is smaller than an inner radius R2 of that same barrel (see FIG. 5).** Thus, the first barrel is **approximately U shaped.** When the lenses are inserted, the first barrel deforms from the U shape to an approximately semicircular shape, and clamps the lenses with a reaction force resulting from the deformation. The second barrel is set in abutting relation with the first barrel, and tenons (14) of each barrel are fitted in mortises (15) of the other. **Abutting surfaces of the barrels are fixed by ultrasonic melt-bonding or with an adhesive, etc.**

In response to the rejection, applicant respectfully asserts that the claims are patentable, as follows:

As regards amended claim 1 of the present application, this recites a lens assembly for use in a camera, comprising:

a lens holder comprising at least two joined partitions, each partition comprising at least one joining edge where the partition joins at least one adjacent partition, the at least two joined partitions cooperatively defining a cylindrical body of the lens holder, with a plurality of screw threads being provided on an outside surface of the body; and

a plurality of lenses received in the lens holder; wherein

at least one partition comprises one or more locking protrusions at the joining edge thereof, an adjacent partition correspondingly comprises one or more locking receptacles at the joining edge thereof, the locking protrusions are engagingly received in the locking receptacles to join the two partitions together, a plurality of partition platforms are formed inside at least one partition to define at least one room for accommodating and securing the plurality of lenses, and an opening is formed through each partition platform.

In Hayashi et al., it is clearly indicated that the inner surface of the first barrel is essentially U shaped, whereby the radius R1 is smaller than the radius R2 before assembly of the lenses into the first barrel. The U shaped configuration is not only disclosed in the specification, but also recited in the independent claim. The first barrel has to deform from the U shape to the semicircular shape so as to provide reaction force for clamping the lenses. It can be seen that the U shaped configuration is elemental to the invention of Hayashi et al. Compare this with the present invention, wherein the lens holder has a cylindrical body. For this reason alone, the lens assembly of claim 1 is different from and novel over that of Hayashi et al.

In addition, in Hayashi et al., the first barrel deforms in the process of assembling the lenses. Compare this with the present invention, wherein the partitions have the same semi-cylindrical shape whether before or after assembly of the lenses into the lens holder. For this reason alone, the lens assembly of claim 1 is different from and novel over that of Hayashi et al.

Further, claim 1 of the present application now recites the partitions defining a cylindrical body of the lens holder, with a plurality of screw threads being provided on an outside surface of the body. However, Hayashi et al. does not disclose such screw threads. For this reason alone, the lens assembly of claim 1 is different from and novel over that of Hayashi et al.

Applicant refers to the rejection of claim 6 under 35 U.S.C. 103(a) as being unpatentable over Hayashi et al. in view of Feng (U.S. Pat. No. 5,920,061). Because the subject matter of claim 6 is now incorporated into claim 1, applicant respectfully traverses this rejection in relation to claim 1, as follows:

In Hayashi et al., after inserting the tenons into the mortises of the

split barrels, the abutting surfaces of the barrels need to be fixed by ultrasonic melt-bonding or with an adhesive, etc. However, in claim 1 of the present application, "the locking protrusions are engagingly received in the locking receptacles to join the two partitions together". That is, the partitions are fixed together only by way of engagement of the locking protrusions in the locking receptacles. It is apparent that the lens assembly of the present invention is simpler than that of Hayashi et al. There is no teaching or suggestion in Hayashi et al. that its fixing means could be simplified in a manner as is provided by the present invention.

In the Office action regarding claim 6, Examiner states that Hayashi et al. teaches the invention as claimed, but does not disclose a plurality of screw threads formed on an outside surface. Examiner further states that Feng discloses a lens holder which has screw threads on the exterior surface. Therefore, providing screw threads on an exterior surface of the lens assembly of Hayashi et al. would be practicable. Applicant asserts that if the teachings of Feng were applied to Hayashi et al., the shape of the screw threads on the first barrel of Hayashi et al. would distort when the first barrel is deformed from its original U shaped state to its semicircular shaped state during fitting of the lenses into the first barrel. Thereupon the distorted screw threads on the first barrel would be unusable or unworkable, and/or incompatible with screw threads provided on the second barrel. Thus, it is not obvious to combine the screw threads of Feng with the barrels of Hayashi et al.

For at least the above reasons, it is submitted that independent claim 1 is not only novel over Hayashi et al. under 35 U.S.C. 102, but also unobvious and patentable over Hayashi et al. in view of Feng under 35 U.S.C. 103.

As regards amended claim 10 of the present application, this recites a

lens holder for use in a camera, comprising:

a first housing half having a first plurality of partition platforms and a semi-cylindrical wall, a plurality of locking pins protruding from the first housing half, a plurality of screw threads being formed on an outside surface of the wall of the first housing half; and

a second housing half being complementary to the first housing half, the second housing half having a second plurality of partition platforms and a semi-cylindrical wall, a plurality of locking holes being defined in the second housing half for engagingly receiving the locking pins, a plurality of screw threads being formed on an outside surface of the wall of the second housing half; wherein

when the first housing half is assembled with the second housing half to form a complete housing, the partition platforms of the first housing half and the partition platforms of the second housing half together define a plurality of rooms inside said complete housing for receiving a plurality of lenses and together define openings for passage of light.

In Hayashi et al., it is clearly indicated that the inner surface of the first barrel is essentially U shaped, whereby the radius R1 is smaller than the radius R2 before assembly of the lenses into the first barrel. The U shaped configuration is not only disclosed in the specification, but also recited in the independent claim. The first barrel has to deform from the U shape to the semicircular shape so as to provide reaction force for clamping the lenses. It can be seen that the U shaped configuration is elemental to the invention of Hayashi et al. Compare this with the present invention, wherein the first and second housing halves each has a semi-cylindrical wall. For this reason alone, the lens assembly of claim 10 is different from and novel over that of Hayashi et al.

In addition, in Hayashi et al., the first barrel deforms in the process of

assembling the lenses. Compare this with the present invention, wherein the first and second housing halves have the same semi-cylindrical shape whether before or after assembly of the lenses into the lens holder. For this reason alone, the lens assembly of claim 10 is different from and novel over that of Hayashi et al.

Further, claim 10 of the present application now recites the first and second housing halves forming a complete housing, with a plurality of screw threads being provided on outside surfaces of the walls of the first and second housing halves. However, Hayashi et al. does not disclose such screw threads. For this reason alone, the lens assembly of claim 10 is different from and novel over that of Hayashi et al.

Applicant refers to the rejection of claim 13 under 35 U.S.C. 103(a) as being unpatentable over Hayashi et al. in view of Feng. Because the subject matter of claim 13 is now incorporated into claim 10, applicant respectfully traverses this rejection in relation to claim 10, as follows:

In Hayashi et al., after inserting the tenons into the mortises of the split barrels, the abutting surfaces of the barrels need to be fixed by ultrasonic melt-bonding or with an adhesive, etc. However, in claim 10 of the present application, "the locking pins are engagingly received in the locking holes to join the first and second housing halves together". That is, the first and second housing halves are fixed together only by way of engagement of the locking pins in the locking holes. It is apparent that the lens holder of the present invention is simpler than that of Hayashi et al. There is no teaching or suggestion in Hayashi et al. that its fixing means could be simplified in a manner as is provided by the present invention.

In the Office action regarding claim 13, Examiner states that Hayashi et al. teaches the invention as claimed, but does not disclose a plurality of screw threads formed on an outside surface. Examiner further states that

Feng discloses a lens holder which has screw threads on the exterior surface. Therefore, providing screw threads on an exterior surface of the lens assembly of Hayashi et al. would be practicable. Applicant asserts that if the teachings of Feng were applied to Hayashi et al., the shape of the screw threads on the first barrel of Hayashi et al. would distort when the first barrel is deformed from its original U shaped state to its semicircular shaped state during fitting of the lenses into the first barrel. Thereupon the distorted screw threads on the first barrel would be unusable or unworkable, and/or incompatible with screw threads provided on the second barrel. Thus, it is not obvious to combine the screw threads of Feng with the barrels of Hayashi et al.

For at least the above reasons, it is submitted that independent claim 10 is not only novel over Hayashi et al. under 35 U.S.C. 102, but also unobvious and patentable over Hayashi et al. in view of Feng under 35 U.S.C. 103.

Claim 11 depends from claim 10. Accordingly, claim 11 is also submitted to be novel, unobvious and patentable over Hayashi et al. in view of Feng under 35 U.S.C. 102 and 35 U.S.C. 103.

Claim Rejections under 35 U.S.C. 103

Claims 6, 13, 14, 16 and 18-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hayashi et al. in view of Feng (U.S. Pat. No. 5,920,061).

Applicant has canceled claims 6 and 13 without prejudice.

Regarding claims 14 and 16, Examiner states to the effect that the combination of Hayashi et al. and Feng teaches the invention as claimed.

In response, applicant refers to and relies on the above assertions regarding the patentability of claim 10 over Hayashi et al. in view of Feng under 35 U.S.C. 103. Claims 14 and 16 depend from claim 10, and therefore should also be unobvious and patentable over Hayashi et al. in view of Feng under 35 U.S.C. 103.

Regarding claim 18, Examiner essentially states that Hayashi et al. teaches a lens holder with all elements of the present invention excepting a plurality of screw threads. Examiner further states that Feng discloses a lens holder which has screw threads on the exterior surface. Therefore, providing screw threads on an exterior surface of the lens assembly of Hayashi et al. would be practicable. Regarding claims 19-21, Examiner states to the effect that the combination of Hayashi et al. and Feng teaches the invention as claimed.

In response to the rejections of claims 18-21, applicant respectfully traverses and asserts that the claims are patentable, as follows:

Applicant refers to and relies on the above assertions regarding patentability of claims 1 and 10 over Hayashi et al. in view of Feng under 35 U.S.C. 103. For similar reasons, claim 18 is submitted to be unobvious and patentable over Hayashi et al. in view of Feng under 35 U.S.C. 103.

Accordingly, claims 19-21 which depend from claim 18 are also unobvious and patentable over Hayashi et al. in view of Feng under 35 U.S.C. 103.

Claim 9 is rejected under 35 U.S.C 103(a) as being unpatentable over Hayashi et al. in view of Belliveau et al. (U.S. Patent No. 6,172,822).

Examiner states that Hayashi et al. teaches the invention as claimed, but does not expressly disclose a funnel-shaped opening in the top portion of the lens holder. Belliveau et al. teaches a funnel-shaped opening when

two halves of a lens assembly are assembled with each other (FIG. 4).

Applicant has canceled claims 6 and 13 without prejudice.

Claim 15 is rejected under 35 U.S.C 103(a) as being unpatentable over Hayashi et al. in view of Feng as applied to claim 14 above, and further in view of Belliveau et al.

The present invention provides a plurality of screw threads on the outside surface of the complete housing of the lens holder. However, Hayashi et al. does not disclose or suggest any such screw threads. Further, in Belliveau et al., the clips (45, 46, 47, 48) and the clip hole extensions (35, 36, 37, 38) combine the top cover (2) and the bottom cover (3) into a unified lens holder (1). Thus screw threads cannot be defined on the top and bottom covers of Belliveau et al. Therefore, Belliveau et al. in effect teaches against the lens holder thereof being applied to a reference wherein a lens holder would be required to have outer screw threads. For at least this reason, it is unobvious to combine Belliveau et al. with Hayashi et al. in order to arrive at the invention of claim 15.

If further argument is needed, applicant refers to and relies on the above assertions regarding patentability of claim 10 over Hayashi et al. in view of Feng under 35 U.S.C. 103. Applicant submits that the teachings of Belliveau et al. (see above) do not provide anything additional to the teachings of Hayashi et al. in view of Feng which might lead one of ordinary skill in the art to arrive at the lens holder of claim 10. That is, claim 10 is submitted to be unobvious and patentable over Hayashi et al. in view of Feng and further in view of Belliveau et al. On this basis, claim 15 should be allowable as being dependent from claim 10.

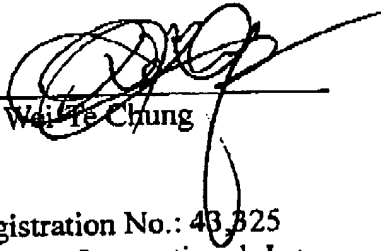
For at least the above reasons, dependent claim 15 is submitted to be unobvious and patentable under 35 U.S.C. 103 over Hayashi et al. in view

of Feng, and further in view of Belliveau et al.

In view of the above claim remarks, the subject application is believed to be in a condition for allowance, and an action to such effect is earnestly solicited.

Respectfully submitted,
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